

CLAIMS

What is claimed is:

1 1. An electronic assembly, comprising:
2 a substrate;
3 an integrated circuit package mounted to said
4 substrate;
5 a thermal element coupled to said integrated circuit
6 package; and,
7 a thermally conductive phase change material that
8 couples said integrated circuit package to said thermal
9 element.

1 2. The assembly of claim 1, wherein said thermally
2 conductive phase change material is embedded into a mesh.

1 3. The assembly of claim 1, wherein said thermally
2 conductive phase change material includes a poly-olefin.

1 4. The assembly of claim 3, wherein said poly-olefin
2 includes a thermally conductive filler material.

1 5. The assembly of claim 1, wherein said thermally
2 conductive phase change material changes from a solid
3 state to a liquid state at approximately 45 to 50 degrees
4 centigrade.

1 6. The assembly of claim 1, wherein said substrate
2 has a plurality of conductive pads along an edge of said
3 substrate.

1 7. An electronic assembly, comprising:
2 a substrate;
3 a first integrated circuit package mounted to said
4 substrate;
5 a second integrated circuit package mounted to said
6 substrate;
7 a thermal element that is separated from said first
8 integrated circuit package by a first distance and from
9 said second integrated circuit package by a second
10 distance which is greater than the first distance;
11 a first thermally conductive phase change pad that
12 couples said first integrated circuit package to said
13 thermal element; and,
14 a second thermally conductive phase change pad that
15 couples said second integrated circuit package to said
16 thermal element.

1 8. The assembly of claim 7, wherein each thermally
2 conductive phase change pad includes a thermally
3 conductive phase change material that is embedded into a
4 mesh.

1 9. The assembly of claim 8, wherein said thermally
2 conductive phase change material includes a poly-olefin.

1 10. The assembly of claim 9, wherein said poly-olefin
2 includes a thermally conductive filler material.

1 11. The assembly of claim 8, wherein said thermally
2 conductive phase change material changes from a solid
3 state to a liquid state at approximately 45 to 50 degrees
4 centigrade.

1 12. The assembly of claim 7, wherein said substrate
2 has a plurality of conductive pads along an edge of said
3 substrate.

1 13. The assembly of claim 7, wherein said thermal
2 element includes a first pedestal that is in contact with
3 said first thermally conductive phase change pad and a
4 second pedestal that is on contact with said second
5 thermally conductive phase change pad.

1 14. A method for assembling an electronic assembly,
2 comprising:

3 assembling a thermally conductive phase change
4 material between an integrated circuit package and a
5 thermal element;

6 heating the thermally conductive phase change
7 material to change from a solid state to a liquid state;
8 and,

9 cooling the thermally conductive phase change
10 material to change from the liquid state to the solid
11 state.

1 15. The method of claim 14, wherein the thermally
2 conductive phase change material is heated to a
3 temperature no less than 45 degrees centigrade.

1 16. A method for assembling an electronic assembly,
2 comprising:

3 placing a thermally conductive phase change material
4 onto an integrated circuit package;

5 heating the thermally conductive phase change
6 material to change from a solid state to a liquid state;

7 placing a thermal element onto the thermally
8 conductive phase change material; and,

9 cooling the thermally conductive phase change
10 material to change from the liquid state to the solid
11 state.

1 17. The method of claim 14, wherein the thermally
2 conductive phase change material is heated to a
3 temperature no less than 45 degrees centigrade.